

## Fact Sheet 7

# Epilepsy and Medication

- Epilepsy seizures can be controlled (but not cured) by the use of anti-epileptic drugs (AEDs). Around 70% of people become seizure-free, or have the number of their seizures decreased, with AED use. Most people find the right AED fairly quickly once newly diagnosed.
  - These drugs calm the over-excited brain cells by affecting the levels of ‘neurotransmitter’ chemicals in the brain. They do not work at the time of the seizure.
  - Neurologists choose the best AED for you based on your age, type, sex, side effects, and optimum control. Their aim in treatment is to stop seizures with the lowest dosage of AED and with the fewest side effects. Usually treatment involves the use of only one AED (monotherapy), but sometimes two or more AEDs are added to gain best control (polytherapy).
  - Once an AED has been decided for you, it is best to strictly follow the directions of its use. Many AEDS are taken once a day, but others are taken two or three times a day. Know your drug regime and stick to it.
- You usually start off your AED on a low dose, and this is increased slowly until the most effective dose is found for you, i.e. no/or few seizures with no/or few side effects.

### “Start low and go slow”

- It is important that the AED is taken regularly to ensure that there is a ‘steady level’ of medication in your blood at all times. This near-constant level enables good seizure control. Use an alarm on your watch, a phone message, a daily pill box, or some way of remembering when to take your AEDs regularly.
- If you forget to take your medication, take it as soon as you remember unless it is near to your next dose. **Do not double dose to make up for the one that you forgot to take.**
- It is important to never stop taking your prescribed medication because this could result in an increase in seizures or **status epilepticus** (non-stop seizures), which are life-threatening. Other withdrawal symptoms could include psychosis, hallucinations, behavioural disorders, tremors, or anxiety.

- If the AED chosen for you is unsuitable, the neurologist will prescribe another one, or add to the one you are already taking. This process is done slowly so that you experience few or no side effects. Your neurologist will guide you in what to do. Follow his/her instructions carefully.
- Record your seizures in a ‘Seizure Diary’, noting where, when, seizure type, and medication dosage to enable your neurologist to adjust your medication regime if necessary. Only a true record will indicate how best to control your seizures.
- How long you remain on medication is up to you and your neurologist. Some people may need to take AEDs indefinitely, but sometimes epilepsy goes into spontaneous remission, and seizures stop happening. Discontinuing medication after a seizure-free period of about two years may be an option, but the successful withdrawal of AEDs is a slow process and must be medically supervised to reduce the likelihood of seizures occurring.

**DO not adjust or stop your medication except on the advice of your specialist.**

- All AEDs have a list of possible side effects. “Start low and go slow” helps to minimize the effect of AEDs on your body.
- Look for unusual signs or symptoms in your behaviour and/or on your body. A rash is a significant side effect that requires immediate medical attention. Some rashes can be life-threatening. Warning signs of a serious rash are raised lumps, flaky skin, a swollen face, painful skin, purple blotches, and sores on the lips or around the mouth, and asthma symptoms.
- Other symptoms to watch for include swollen gums, acne, feeling drowsy/dizzy/tired, weight-gain, feeling moody, nauseous, or having problems with memory and concentration. Take note of these side effects and, if they become difficult to cope with, discuss them with your neurologist or GP.
- Some AEDs may cause your bones to become thinner and more brittle (osteoporosis), which means that you are at greater risk of breaking them.
- Some AEDs interfere with the contraceptive pill and some women may fall pregnant as a result of this interference. At other times the contraceptive pill may interact with the AEDs by reducing the amount of AED in the blood, therefore resulting in more seizures. Professional advice on AEDs and contraceptive use is important.
- Some AEDs can affect the development of the unborn baby and so specialist advice and support are essential at least 3-6 months before starting a family. Most babies are born healthy to mothers who are taking AEDs. AEDs affect your body’s ability to absorb folic acid and so it is advisable that you take higher-than-usual doses to prevent nervous system defects such as spina bifida in your developing

baby. Your specialist will prescribe an AED that gives you best seizure control whilst protecting your baby from its side effects. Any risks will be kept to a minimum.

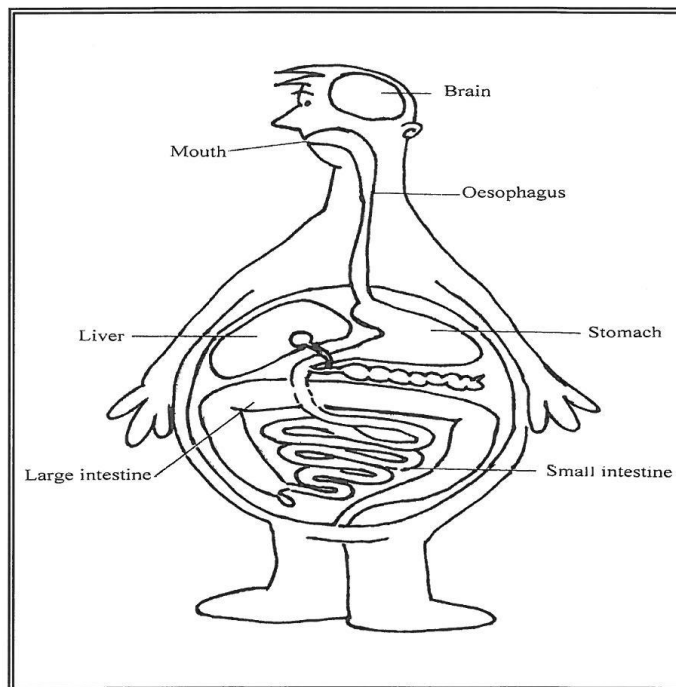
- Consult your neurologist before taking herbal medicines, homeopathic substances or supplements (e.g. ginko biloba, St John's wort, and evening primrose oil) as these may interfere with your AED and affect seizure control.
- Vomiting, diarrhea, and dehydration may increase seizure activity because of an insufficient amount of your AED being absorbed into your blood stream.
- Stay on the AED that was prescribed to you by your neurologist. The differences between a brand named AED and a generic one, no matter how small, can be enough to cause break-through seizures or result in different side effects. Ask your pharmacist to give you the drug that you were initially prescribed.
- Avoid consuming grapefruit juice if you are taking Tegretol. Grapefruit can interfere with the way your body is able to absorb and break down this AED by increasing or decreasing its levels in the bloodstream.
- Here is a list of common AEDs that are available to neurologists in New Zealand:
  - Carbamazepine (Tegretol, Carbatrol)
  - Clobazem (Frisium)
  - Clonazepam (Rivotril, Paxam)
  - Ethosuximide (Zarontin)
  - Gabapentin (Neurontin)
  - Lamotrogine ( Lamictal, Arrow-Lamotrogine, Mogenic, Logem)
  - Levetiracetam ( Keppra)
  - Phenobarbitone, Primidone
  - Phenytoin (Dilantin)
  - Sodium valproate (Epilim)

For information on these AEDs contact:

- Medsafe consumer medicine information: <http://www.medsafe.govt.nz/consumers/cmi/cmiform.asp>
- Best Health website <http://besthealth.bmj.com/x/index.html>

## How Does Anti-Epileptic Medication Get to the Brain?

1. AEDs come in many forms. Most are tablets, others are capsules and some are liquid. Your medication is swallowed and follows the oesophagus down to the stomach.
2. Once the medication reaches your stomach and intestines it is absorbed before passing into the portal vein and onto the liver.
3. The liver, which is the largest organ in the body and acts like a chemical factory, processes the medication further before passing it into the bloodstream to be taken by the heart to all parts of your body, including your brain.
4. About 20% of all the blood pumped by the heart goes to the brain. Once the AED is in the brain it slowly re-enters the blood stream, back to the heart and then onto the liver which metabolises more of the drug. This cycle is continuous and requires regular dosing of the AED in the brain to prevent seizure activity.
5. Missed medication can cause major unexpected seizures. Some of these may develop into repeated seizures (status epilepticus) and can be fatal. It is advisable not to take extra medication to avoid seizures – always consult your doctor about aspects of your medication regime.



## Is your epilepsy medication right for you?

c	o	n	c	e	n	t	r	a	t	i	o	n	w
s	t	s	w	o	l	l	e	n	g	u	m	s	x
d	r	o	w	s	y	q	m	m	n	x	a	h	z
p	d	y	g	r	e	n	e	f	o	k	c	a	l
n	a	u	s	e	a	w	m	v	p	d	n	k	p
m	e	c	n	a	l	a	b	o	k	u	e	i	d
o	s	s	e	n	i	p	e	e	l	s	j	n	i
o	n	o	i	s	s	e	r	p	e	d	o	g	z
d	o	u	b	l	e	v	i	s	i	o	n	q	z
y	r	a	s	h	f	u	n	s	t	e	a	d	y
c	w	e	i	g	h	t	g	a	i	n	u	q	r
h	e	a	d	a	c	h	e	u	g	i	t	a	f

Some of these side effects happen at the start of taking anti-epileptic drugs whilst the body is adjusting to them.

Concentration  
 lack of energy  
 depression  
 weight gain  
 dizzy  
 moody

remembering  
 shaking  
 double vision  
 unsteady  
 headache  
 balance

swollen gums  
 rash  
 acne  
 drowsy  
 fatigue  
 nausea

Disclaimer: this fact sheet is for education purposes only. Please consult your doctor or other health professional for advice regarding your epilepsy.